REMARKS

The Examiner rejects the claims (amended original claims 1-8 as well as claims 9-16 newly presented in the previous amendment) under 35 USC § 103(a) relying on GB 735,134, repeating his arguments of the previous Office Action.

The Examiner points out that in GB 735,134 the naphtha fraction produced by cat cracking has a boiling point (actually a boiling range) of 138 to 177°C while the kerosene has a boiling point (again, actually boiling range) of 167 to 287°C, the naphtha fraction being rich in aromatics, wherein, upon blending the recited kerosene fraction and naphtha fraction the resulting blend has a total aromatics content of about 20 to 25 wt%. In producing the blend GB 735,134 recites that the heavy naphtha fraction boiling between (i.e., having a boiling range of 280°F to 350°F and containing C_8-C_9 aromatics is blended with the kerosene in an amount sufficient to contribute at least from 0.5 to 2.0% by volume of C_8-C_9 aromatics to the blend, the final jet fuel blend having a freezing point of lower than -76°F (60°C).

The Examiner concludes that it would be expected that the jet fuel would have a freezing point below that of the kerosene prior to blending as is claimed in the present application.

The Examiner argues that it would have been obvious to use naphtha fractions and kerosene fractions having the claimed range because one of skill in the art would utilize any naphtha fraction having a boiling point of from 280-350°F (138-177°C) and any kerosene fraction having a boiling point of from 330-550°F (167-287°C) including the overlapping claimed ranges with the expectation that any fraction having a boiling point within the range would give similar results.

This is the crux of the Examiner's rejection and applicant respectfully traverse this rejection.

The Examiner appears to be confusing boiling point with boiling range. This is clear from his statement that "one of skill in the art would utilize any naphtha fraction having a boiling point of from 280 to 350°F (138-177°C) and any kerosene fraction having a boiling point of from 330 to 550°F (167-287°C) including the overlapping claimed ranges with the expectation that any fraction having a boiling point within the range would give similar results."

Boiling "point" and boiling "range" are not the same.

In the present invention the cat naphtha used is the complete fraction having a boiling range between T_5 of 165°C to T_{95} of 210°C. In the present invention use is not being made of some arbitrary fraction recovered from the material boiling between T_5 of 165°C to T_{95} of 210°C but rather the complete range of material boiling between these temperatures is used in its entirety.

The Examiner, from the quoted language, appears to be indicating that it would have been obvious to use a subfraction boiling at a particular temperature within the range recited in the GB reference and appears to be arguing that all applicant is doing is reciting a temperature range which overlaps that of the reference and that it would be obvious to take a particular portion boiling at some arbitrary temperature, within the recited new temperature range and also within the range taught in the GB reference and use it in the present invention.

This is believed to be an error on the part of the Examiner.

Applicant recites a boiling range for the cat naphtha used in the present invention. That cat naphtha used in the present invention is the entire fraction boiling

between a T_5 of 165°C to T_{95} of 210°C, whereas the GB reference recites a naphtha fraction boiling between an initial boiling point of 138°C to a final boiling point of 177°C. In each instance it is the use of the entire fraction in producing the blend which is taught.

A hydrocarbon fraction boiling in the range initial boiling point 138°C to final boiling point of 177°C is not the same as a hydrocarbon fraction boiling in the range of T_5 of 165°C to T_{95} of 210°C. The hydrocarbon fraction boiling in the range of T_5 of 165°C to T_{95} of 210°C is heavier than the hydrocarbon fraction boiling in the range of initial boiling point 138°C to find boiling point 177°C.

Even when column 10, lines 83-98, are considered which recites at lines 92-94, the use of:

> "(3) a heavy hydroformate or a heavy catalytic naphtha rich in C_8-C_9 aromatics and boiling from 250°F to 400°F" (about 121 to about 204°C)",

the complete fraction recited in the present invention boiling between T_5 of 165°C to T_{95} of 210°C, is seen to be different, the different boiling ranges of the fractions clearly defining different naphthas.

One skilled in the art does not expect different hydrocarbon fractions having different boiling ranges, even if there is some overlaps in the boiling range, to behave similarly.

The fraction taught by the reference boiling in the range of initial boiling point 138°C to final boiling point 177°C (or considering column 10, lines 92-94, initial boiling point 121°C to final boiling point 204°C) defines a hydrocarbon material containing a substantial amount of material which boils below the T_5 = 165°C of the

cat naphtha hydrocarbon materials recited in the present invention, while the cat naphtha hydrocarbon used in the present invention having a T_{95} = 210°C contains a significant amount of hydrocarbon materials boiling above the final boiling end point of 177°C on 204°C of the naphtha recited in the reference.

The absence of the light ends from, and presence of the heavier ends in, the cat naphtha used in the present invention as compared to the naphtha recited in GB reference reveals that the two fractions are different and the teaching of the GB reference does not teach, suggest or imply that a jet fuel can or should be made using the cat naphtha recited in the present invention (T_5 = 165°C to T_{95} = 210°C) or that the freeze point of a jet fuel can be reduced to a temperature below that of the starting kerosene by addition thereto of such a different cat naphtha of such a different boiling range.

The Examiner's rejection of the claims dependent on claim 1 are a repetition from his previous action and were address in the previous amendment. The Examiner's rejection of the claims dependent on claim 9 are similar to his rejection of the claims dependent on claim 1. The arguments in response to that those rejections of the claims dependent on claim 1 are adopted here in response to the rejections of the claims dependent on claim 9.

One point, however, bears repetition regarding claims 9-16. Nothing in the GB reference teaches, suggests, or implies that the freeze point of jet fuel can be reduced to a temperature below that of the starting kerosene by use of a cat naphtha fraction having a boiling range of T_5 = 165°C to T_{95} = 210°C because the reference only teaches the very specific naphtha fraction boiling in the range of initial boiling point 138°C to final boiling point 177°C or initial boiling point 121°C to final boiling point 204°C (column 10, lines 92-94) whereas the cat naphtha used in the present method claims 9-16 is a different material than that taught in the reference as clearly indicated

by the present cat naphtha having a different and unsuggested, untaught and unimplied boiling range.

It is requested that the Examiner reconsider the application in light of the above remarks, withdraw the rejection, allow the claims and pass the case to issue in due course.

Respectfully submitted,

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[X] Pursuant to 37 CFR 1.34(a)

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